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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/759,449	01/16/2004	Chin-Jui Chang	26845-CNT1	7829
23589	7590	09/27/2005	EXAMINER	
HOVEY WILLIAMS LLP 2405 GRAND BLVD., SUITE 400 KANSAS CITY, MO 64108			PATTERSON, MARC A	
			ART UNIT	PAPER NUMBER
			1772	

DATE MAILED: 09/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/759,449

Applicant(s)

CHANG ET AL.

Examiner

Marc A. Patterson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4/23/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 – 2, 4 – 7, 11 – 14 and 16 – 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wycech (U.S. Patent No. 5,755,486) in view of Anfuso et al. (U.S. Patent No. 5,086,080).

With regard to Claim 1, Wycech discloses a composition useful for forming a reinforcing body (reinforced structure, therefore a structural form; column 3, lines 10 - 26), comprising 0 - 20% by weight acrylonitrilebutadiene rubber (a rubber), 0 - 20% polyisoprene and 30 - 70% of an epoxy resin (bisphenol A liquid epoxy resin; column 5, lines 30 - 65); Wycech fails to disclose a composition comprising a styrene - butadiene - styrene (SBS) block copolymer (which is a polystyrene). Anfuso et al teach that SBS block copolymer is equivalent to polyisoprene in the making of a structural foam (column 4, lines 15 - 30), for the purpose of making a foam having good impact resistance (column 1, lines 15 - 20). The desirability of providing for an SBS block copolymer in Wycech et al, which is a structural foam, would therefore be obvious to one of ordinary skill in the art.

It therefore would have been obvious for one of ordinary skill in the art at the time Applicant's invention was made to have provided for SBS block copolymer in Wycech in order to make a structural foam having good impact resistance as taught by Anfuso et al.

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With regard to Claims 2, 4 – 7, 14, 16 – 19, Wycech discloses 0 - 10% of a pigment (carbon black; column 6, lines 13 – 16), 1 – 30% glass microspheres (column 5, lines 58 - 65), 0 - 10% blowing agent (azodicarbonamide; column 5, lines 58 - 65), 0 - 5% accelerator (modified urea, therefore a catalyst; column 6, lines 13 - 16) and 0.1 to 5% of a curing agent (dicyandiamide; column 5, lines 31 - 43).

With regard to Claims 11 – 13, the composition has a compressive strength of 1400 pounds per square inch (column 4, lines 48 - 51). Wycech and Anfuso et al fail to disclose a percent expansion of from 80 - 220% at a temperature of at least 300 degrees Fahrenheit. However, Wycech discloses a percent expansion of at least 1% at room temperature (following expansion; column 4, lines 43 - 60 of Wycech). Therefore, the percent expansion would be readily determined through routine optimization by one having ordinary skill in the art depending on the desired end use of the product. It therefore would be obvious for one of ordinary skill in the art to vary the percent expansion, therefore compressive strength, since the percent expansion would be readily determined through routine optimization by one having ordinary skill in the art depending on the desired end result as shown by Wycech and Anfuso et al. in the absence of unexpected results. *In re Boesch and Slaney*, 205 USPQ 215 (CCPA 1980).

3. Claims 3 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wycech (U.S. Patent No. 5,755,486) in view of Anfuso et al. (U.S. Patent No. 5,086,080) and further in view of Kawasaki et al. (U.S. Patent No. 5,782,730).

Wycech and Anfuso et al. disclose a composition useful for forming a reinforcing body as discussed above; the composition comprises 3.55% fumed silica (column 6, lines

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48 - 65). With regard to Claims 3 and 15, Wycech and Anfuso et al. fail to disclose a composition which comprises hydrated amorphous silica. Kawasaki teaches that hydrated amorphous silica is equivalent to fumed silica as a reinforcing agent for rubber, for the purpose of making a structural foam having good physical strength and hardness (column 6, lines 20 - 67; column 7, lines 1 - 43). The desirability of providing for hydrated amorphous silica in Wycech and Anfuso et al, which is a structural foam, would therefore be obvious to one of ordinary skill in the art.

It therefore would have been obvious for one of ordinary skill in the art at the time Applicant's invention was made to have provided for hydrated amorphous silica in Wycech and Anfuso et al. in order to make a structural foam having good physical strength and hardness as taught by Kawasaki.

4. Claims 8 - 9 and 20 - 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wycech (U.S. Patent No. 5,755,486) in view of Anfuso et al. (U.S. Patent No. 5,086,080) and further in view of Rowland (U.S. Patent No. 4,692,475).

Wycech and Anfuso et al. disclose composition useful for forming a reinforcing body and comprising azodicarbonamide as a blowing agent as discussed above. With regard to Claims 8 - 9 and 20 - 21, Wycech and Anfuso et al. fail to disclose a composition comprising a compound for lowering the blowing temperature of the composition. Rowland teaches the use of a blowing agent composition comprising azodicarbonamide and zinc oxide; the zinc oxide is used as a composition for lowering the decomposition temperature of the azodicarbonamide, therefore lowering the blowing temperature of the composition (column 4, lines 49 - 59); the composition is used for the

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purpose of manufacturing foamed products at low temperature (column 1, lines 57 - 60).

The desirability of providing for a composition for lowering the decomposition temperature in Wycech and Anfuso et al, which is a foam, would therefore be obvious to one having ordinary skill in the art. It therefore would have been obvious for one of ordinary skill in the art at the time Applicant's invention was made to have provided for a compound for lowering the blowing temperature of the composition in Wycech and Anfuso et al. in order to manufacture the foamed product at low temperature as taught by Rowland.

As to the claimed aspect of the compound for lowering the blowing temperature of the composition being present at 5% by weight, it would be obvious for one of ordinary skill in the art to vary the amount of blowing agent disclosed by Wycech, Anfuso et al, Kawasaki et al. and Rowland and therefore the amount of the compound for lowering the blowing temperature of the composition used) since the amount of blowing agent used would be readily determined through routine optimization by one having ordinary skill in the art depending on the desired end result. *In re Boesch and Slaney*, 205 USPQ 215 (CCPA 1980).

5. Claims 10 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wycech (U.S. Patent No. 5,755,486) in view of Anfuso et al. (U.S. Patent No. 5,086,080) and further in view of Kawasaki et al. (U.S. Patent No. 5,782,730) and Rowland (U.S. Patent No. 4,692,475) and Bagga (U.S. Patent No. 5,021,513).

Wycech, Anfuso et al., Kawasaki et al. and Rowland disclose a composition for forming a reinforcing body which comprises a pigment comprising carbon black, blowing

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agent comprising azodicarbamide, curing agent comprising dicyanamide and compound for lowering the blowing temperature of the composition comprising zinc oxide and catalyst comprising a modified urea as discussed above. With regard to Claims 10 and 22, Wycech, Anfuso et al, Kawasaki et al. and Rowland fail to disclose a modified urea comprising dimethyl phenyl urea. Bagga teaches the use of dimethyl phenyl urea as a cure accelerator for epoxy compositions when dicyanamide is used as the curing agent (column 1, lines 24 - 44), for the purpose of forming a cured composition which has excellent storage stability (column 2, lines 10 - 26). The desirability of providing for a modified urea comprising dimethyl phenyl urea in Wycech, Anfuso et al Kawasaki et al. and Rowland, which is comprise epoxy, would therefore be obvious to one of ordinary skill in the art.

It therefore would have been obvious for one of ordinary skill in the art at the time Applicant's invention was made to have provided for dimethyl phenyl urea in Wycech, Anfuso et al, Kawasaki et al. and Rowland in order to forming a cured composition which has excellent storage stability as taught by Bagga.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc A Patterson whose telephone number is 571-272-1497. The examiner can normally be reached on Mon - Fri 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Marc Patterson 9/19/05
Marc A. Patterson, PhD.
Examiner
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